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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,865	02/04/2000	Donald C. D. Chang	PD-980034	7997

20991 7590 06/21/2002

HUGHES ELECTRONICS CORPORATION
PATENT DOCKET ADMINISTRATION
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EXAMINER

ISSING, GREGORY C

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 06/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,865

Applicant(s)

CHANG ET AL.

Examiner

Gregory C. Issing

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The corrected or substitute drawings were received on 5/6/02. These drawings are acceptable and approved by the Draftsman.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 4, 5, 7-9, 11, 13-18, 21-22, and 25-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Richards et al or Karlsson et al in view of either one of Chiba et al or Suzuki et al and further in view of Chang et al.

The rejection is set forth in the last Office Action, paragraph number 2.

Applicants argue that Richards et al fail to disclose any details regarding beamforming and more specifically digital beamforming. Moreover, the modification to Richards et al is allegedly based on improper hindsight reconstruction since there is no suggestion in the reference to combine. Furthermore, the applicants allege distinction over the prior art for the use of "elongated radiation elements".

Applicants argue that Karlsson et al fails to disclose any details regarding digital beamforming. The applicants argue that Karlsson et al teach away from the claimed subject matter with respect to digital beamforming since the circuitry of Karlsson receives a beacon signal for informing the antenna of the position of the next satellite. Furthermore, the applicants allege distinction over the prior art for the use of "elongated radiation elements". The applicants argue that Karlsson et al do not teach locking on to a second satellite before locking off a first satellite via the fact that a single beam is used to move from the first to the second satellite.

4. Applicant's arguments filed 4/24/02 have been fully considered but they are not persuasive.

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5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The combination of references is deemed to suggest the claimed subject matter, however, the applicants have not shown how the combination fails to suggest the claimed subject matter. Rather, applicants have individually alleged distinction between the claimed subject matter and each of the primary references to Richards et al and Karlsson et al. Each of Chiba et al and Suzuki et al were specifically cited for the teaching the advantages gained by and the trend in the art for using digital beam forming. Applicants' allegation that the combination of Richards et al and the secondary references are based on improper hindsight reconstruction is not supported and is contrary to the teachings thereof since each suggests the use of DBF in communication systems; Chang et al disclose the specifically claimed multiplexor/DBF. Therefore, the applicants' argument that neither Richards et al nor Karlsson et al teach or suggest digital beam forming fails to overcome the rejection based on the combination of references wherein the combination sets forth the conventionality of the use of DBF in satellite communications. With regard to the use of "elongated radiating elements" as claimed in claims 21 and 37, Richards et al disclose the use of an electronically scanned antenna and show, in Figure 1, a plurality of elongated, parallel lines making up the antenna. Moreover, any conventional electronically scannable elements are deemed to be suggested by Richards et al, therefore suggesting any conventional slot type array, for example, which would further meet the scope of the claims. The only antenna types that would not read on "an elongated radiating element" would be a circular patch or circular aperture. The applicants'

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argument that Karlsson et al do not lock on to a second satellite prior to locking off a first satellite and the alleged teaching away from the claimed subject matter are not supported by the prior art. Figure 5 of Karlsson et al suggests the use of a two beam system wherein the antenna beams are aligned within the same scan angle so as to capture both the going satellite and the coming satellite simultaneously. Furthermore, Karlsson et al teach the use of boresight pointing to direct the antenna beams thus suggesting processing of the received signal to determine steering control. Thus, the applicants' argument is not persuasive.

6. Claims 2, 3, 10, 12, 19, 20, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined prior art set forth above as applied to the claims set forth above and further in view of Ajioka and Barrett et al.

The rejection is set forth in the previous Office Action, see par. 3, thereof.

Applicants relay on the patentability of the independent claims and do not separately argue these claims.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

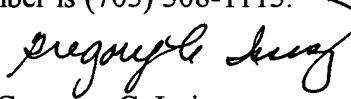
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (703)-306-4156. The examiner can normally be reached on Mon-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703)-306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Gregory C. Issing
Primary Examiner
Art Unit 3662

gci
June 20, 2002